

2010 TRAC Bridge Competition Checklist 11th and 12th Grade Suspension Bridge Competition

Please use this checklist to avoid common mistakes that lead to disqualifications. This list is not all-inclusive and is not a substitute for the official competition rules brochure. Please refer to the official competition rules provided in your bridge kit for a complete explanation of all eligibility requirements and design specifications.

- ☐ The balsa wood used to construct each suspension bridge must be only *ONE LAYER* thick. At the joints, the balsa wood bridge may need to be more than one layer thick. These joints may not be any more than 1/8-inch thick. The length of the double layer at the joint may not exceed 1 inch in length.
- ☐ Lamination is not permitted.
- ☐ The materials provided are the **ONLY** materials to be used when building the bridges. The use of additional material is permitted for decorations or visual aids.
- ☐ A car that is 1 inches wide by 1 inch tall must be able to drive across the bridge while the bridge is closed.
- ☐ Bridge will be tested for strength-to-weight ratio.

The bridge must have no more than two anchorages on each end.

The bridge can have no more than and no less than two towers.

- ☐ The towers can be up to 8 inches tall as measured from the roadway bed to the top of the tower. The bottom of the towers will sit on the bottom of the Pitsco Bridge Tester between the vertical supports of the tester. See the dimensions of the Pitsco di2000 Structure Tester.
- ☐ The main cables strung from one tower to the other tower (the cable that forms the U-shape in the example picture on page 4) can come no closer than 2 inches from the roadway bed at the lowest point of the each main cable.
- ☐ The total length of the bridge must be 15 inches.
- ☐ The bridge must have supports and anchorages suitable for placement on Pitsco di2000. Please see picture of Pitsco tester on page 5 of the competition rules.

StructureTester (<http://catalog.pitsco.com/store/detail.aspx?ID=2557&bhcp=1>). For additional information on the tester, visit www.pitsco.com.

The clear span (i.e., open area with no physical obstructions) between the towers must be a minimum of 10 inches and a maximum of 11.5 inches apart.

- ☐ The center of the bridge must be open to make it possible for the rod of the Pitsco di2000 Structure Tester to fit.
- ☐ The vertical supports of the Pitsco di2000 will be placed 13 inches apart on center.
- ☐ No part of the suspension bridge can make contact with any part of the Pitsco di2000 Bridge Tester that is located between the vertical supports of the Pitsco di2000.